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09/553,810	04/21/2000	H. Donald Wilson	WILSONLESSAC	6936

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EXAMINER

AZAD, ABUL K

ART UNIT PAPER NUMBER

2654

DATE MAILED: 08/27/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/553,810

Applicant(s)

WILSON ET AL.

Examiner

ABUL K. AZAD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 28-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the communication filed on June 13, 2003.
2. Claims 28-39 are pending in this action. Claims 28, 30, 33, 36 and 39 have been amended.
3. The applicant's arguments with respect to claims 28-39 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant's arguments or comments, see the detailed discussion in the Response to the Arguments section.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 28-29 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Minematsu (US 6,249,763).

As per claim 28, Minematsu teaches, "a method of speech recognition using a microphone to receive audible sounds to be recognized input by a user into a computing device coupled to said microphone (col. 7, lines 55-67, reads on "computer 1" and

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"input/output device includes a microphone"), said computing device having a program with database information (col. 8, lines 56-67, particularly reads on "the software includes a speech recognition program as an application") comprising (i) digital representations of known audible sounds corresponding to proper pronunciations of phonemes and associated alphanumeric representations of said known audible sounds corresponding to proper pronunciations of phonemes forming a first database and (ii) digital representations of known audible sounds corresponding to mispronunciations of phonemes and associated alphanumeric representations of said known mispronounced audible sounds corresponding to improper pronunciations of phonemes, forming a second database" (col. 9, line 64 to col. 10, line 7, "forming a first database" reads on "a candidate word generation part" and "forming a second database" reads on "an analogous word adding part") comprising the steps of:

"receiving said audible sounds in the form of an electrical output of said microphone" (col. 8, line 1, reads on "the input device 120 includes a microphone 122");

"converting said electrical output corresponding to a particular audible sound into a digital representation of said particular audible sound" (col. 13, lines 1-27, reads on "vector data generating part 160 and label generating part");

"comparing said digital representation of said particular audible sound to said digital representations of said known audible sounds in said first and second databases to determine a match with the one of said known audible sounds most likely to be the particular audible sound being compared to the sounds in said database" (col. 21, line

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30 to col. 22, line 28, where input speech is compared with stored analogous word as well as stored candidate word to get the target word); and

“outputting an output consisting of a speech recognition output consisting of the alphanumeric representations associated with said audible sound most likely to be said particular audible sound” (col. 22, lines 6-28, particularly reads on “text data corresponding to respective entries of the correction information index inputted from control part are placed in positions (a) to (e) shown in Fig. 19).

As per claim 29, Minematsu teaches, “outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation” (col. 21, line 30 to col. 22, line 28); and

“in response to a determination of error corresponding to a known type or instance of mispronunciation, giving the user the option of receiving speech training or training said program to recognize the user's speech pattern” (col. 22, lines 30-66, reads on “correction program” and also from col. 15, lines 5-40 teaches to adding analogous word in the database of user's speech pattern); and

“in response to exercise of said option, presenting an interactive training program from said computing device to said user to enable said user to correct such mispronunciation” (col. 22, lines 6-28).

As per claim 38, it is interpreted and thus rejected for the same reasons set forth in the rejection of claims 28 and 29, because claim 38 directed to method of speech training rather than method of speech recognition, essentially have similar limitations and scope.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 30-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu (US 6,249,763) in view of Shpiro (US 5,766,015).

As per claim 30 Minematsu teaches, "a method of speech recognition using a microphone to receive audible sounds input by a user into a computing device coupled to said microphone (col. 7, lines 55-67, reads on "computer 1" and "input/output device includes a microphone"), said computing device having a program with database information (col. 8, lines 56-67, particularly reads on "the software includes a speech

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recognition program as an application") comprising (i) digital representations of known audible sounds corresponding to proper pronunciations of phonemes and associated alphanumeric representations of said known audible sounds corresponding to proper pronunciations of phonemes forming a first database and (ii) digital representations of known audible sounds corresponding to mispronunciations, forming a second database (col. 9, line 64 to col. 10, line 7, "forming a first database" reads on "a candidate word generation part" and "forming a second database" reads on "an analogous word adding part")" comprising the steps of:

generating said database information by (ii) "having a different person who usually speaks said known audible sounds corresponding to mispronunciations and digitizing said known mispronounced audible sounds spoken by said person who usually speaks said known mispronounced audible sounds corresponding to mispronunciations to form a second database" (col. 11, lines 8-61, an analogous word data record correspond to mispronunciation is a second database);

"receiving said audible sounds in the form of an electrical output of said microphone receiving speech to be recognized" col. 8, line 1, reads on "the input device 120 includes a microphone 122");

"converting said electrical output corresponding to a particular audible sound into a digital representation of said particular audible sound to be recognized" (col. 13, lines 1-27, reads on "vector data generating part 160 and label generating part");

"comparing said digital representation of said particular audible sound to be recognized to said digital representations of said known audible sounds in said first and

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second databases to determine a match with the one of said known audible sounds most likely to be the particular audible sound to be recognized being compared to the sounds in said database" (col. 21, line 30 to col. 22, line 28); and

"outputting as a speech recognition output the alphanumeric representations associated with said audible sound most likely to be said particular audible sound" (col. 22, lines 6-28, particularly reads on "text data corresponding to respective entries of the correction information index inputted from control part are placed in positions (a) to (e) shown in Fig. 19).

Minematsu teaches a proper correct pronunciation word database known as candidate word part (col. 11, lines 11-26) and digitizing said proper pronounced known audible sound to form a database (col. 13, lines 2-12); but does not explicitly teach having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation. However, Shpiro teaches, having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation (col. 4, lines 1-46, particularly reads on "expected audio response reference database"). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to create a database of correct proper pronunciation using a person's speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33).



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As per claim 31, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28); and

"in response to a determination of error corresponding to a known mispronunciation, presenting an interactive training program from said computing device to said user to enable said user to correct such mispronunciation" (col. 22, lines 6-28).

As per claim 33, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28); and

"in response to the detection of repeated instances or a reliable single instance of pronunciation error, presenting an interactive training program from said computer to said user to enable said user to correct such mispronunciation" (col. 18, line 53 to col. 19, line 9, particularly reads on "it is meant that the pronunciation by the user approaches a native speaker and as correct as it can be recognized with a high recognition rate even using a conventional speech recognition apparatus other than this invention. Conversely, if an analogous word is selected, it is meant that the speaker's pronunciation contains some error or an obscurity . . . How the pronunciation is wrong and how the speaker should pronounce in order to pronounce correctly when the word intend by the user is recognized as an analogous word").

As per claims 35 and 36, Minematsu teaches, "wherein said user is presented with an interactive training program in response to the detection of repeated instances

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or a reliable single instance of pronunciation error" (col. 18, line 53 to col. 19, line 9, particularly reads on "it is meant that the pronunciation by the user approaches a native speaker and as correct as it can be recognized with a high recognition rate even using a conventional speech recognition apparatus other than this invention. Conversely, if an analogous word is selected, it is meant that the speaker's pronunciation contains some error or an obscurity . . . . How the pronunciation is wrong and how the speaker should pronounce in order to pronounce correctly when the word intend by the user is recognized as an analogous word").

As per claim 37, Minematsu teaches, "said database information comprising (i) digital representations of known audible sounds corresponding to proper pronunciations of phonemes and associated alphanumeric representations of said known audible sounds corresponding to proper pronunciations of phonemes (col. 9, line 64 to col. 10, line 7, "proper pronunciation" reads on "a candidate word generation part") and (ii) digital representations of known audible sounds corresponding to mispronunciations is formed by (ii) having a person who usually speaks said known audible sounds corresponding to mispronunciations, and digitizing said known audible sounds spoken by said person who usually speaks said known audible sounds corresponding to mispronunciations" (col. 9, line 64 to col. 10, line 7, "mispronunciations" reads on "an analogous word adding part").

Minematsu teaches to create a database of digital representation of mispronunciation created by a person other than a native speaker (col. 11, lines 27-61, reads on analogous word), but des not explicitly teach, "digital representations of known

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audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds". However, Shpiro teaches, "digital representations of known audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds" (col. 4, lines 1-46). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to create a database correspond to mispronunciation using a person's speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33).

9. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu (US 6,249,763) in view of Shpiro (US 5,766,015) as applied to claim 30 above, and further in view of the applicant admitted prior art (Page 29).

As per claim 32, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28).

Minematsu does not teach that the interactive program using Lessac System. However, Lessac teaches above limitation (Page 29) as acknowledged by the applicant.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to use Lessac system so as to substantially improve the pronunciation.

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu in view of Shpiro as applied to claim 33 above.

As per claim 34, Minematsu teaches his invention can provide an interactive program based on the error found in the pronunciation and also one can train the system to know the pattern of use's pronunciation (col. 24, line 59 to col. 25, line 18) but does not explicitly teach to perform the interactive training program based on user option to elect. It would have been obvious to one of the ordinary skill in the art at the time of the invention to give an option to the user whether he wants to learn the pronunciation or not so that the system will save time by not train a person who does not want to get training.

11. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu (US 6,249,763) as applied to claim 38 above, and further in view of Shpiro (US 5,766,015).

As per claim 39, Minematsu teaches to create a database of digital representation of mispronunciation created by a person other than a native speaker (col. 11, lines 27-61, reads on analogous word), but des not explicitly teach, "digital representations of known audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said

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known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds". However, Shpiro teaches, "digital representations of known audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds" (col. 4, lines 1-46). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to create a database correspond to mispronunciation using a person's speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33).

### ***Response to Arguments***

12. The applicant argues: "the rejection based on Shpiro does not deal with voice recognition, but rather speech correction where a database of mispronounced words is consulted. Similarly, Minematsu deals with the problems associated with mispronunciations, and does so with a database built only using mispronounced speech, clearly in contrast to the recitation of pending claims".

The examiner disagrees with the applicant's assertion because Shpiro teaches an interactive language training as well as speech recognition (see Fig. 2, element "likelihood measurement" (speech recognition by comparing database speech with microphone inputted speech). In the claim rejection Minematsu shows a database of

usual mispronounced words and Shpiro shows a database of occasional mispronounced words.

13. The applicant further argues: "even assuming this combination is taught, it still does not remotely teach a voice recognition system in which multiple pronunciations are maintained in separate database (as claimed in all of the claims), instead of being blended together to get an average pronunciation of a word by all sorts of speakers as is done in prior art".

In response to above argument the examiner does not see any clear indication in the specification that the databases are separate or blended together in the instant application (see fig. 1 of instant application).

14. The applicant argues: "Claim 35, for example, deal with the sensitivity of error detection for the threshold algorithm, something which is not taught by the prior art".

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., sensitivity of error detection for the threshold algorithm) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

15. The applicant argues: "Claim 30, deal with a method which incorporates the development of a database using speakers who speaks properly and other speakers who do not pronounce words properly. This is not remotely taught to the prior art".

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The examiner disagrees with the applicant's assertion because Minematsu teaches a proper correct pronunciation word database known as candidate word part (col. 11, lines 11-26) and digitizing said proper pronounced known audible sound to form a database (col. 13, lines 2-12); but does not explicitly teach having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation. However, Shpiro teaches, having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation (col. 4, lines 1-46, particularly reads on "expected audio response reference database").

### ***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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**Contact Information**

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

**Commissioner for Patents**

**Washington, D.C. 20231**

Or faxed to:

**(703) 872-9314**

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office whose telephone number is **(703) 306-0377**.

Abul K. Azad

August 23, 2003

  
Richemond Dorvil  
Primary Examiner